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23557 7590 07/13/2004

SALIWANCHIK LLOYD & SALIWANCHIK
A PROFESSIONAL ASSOCIATION
2421 N.W. 41ST STREET
SUITE A-1
GAINESVILLE, FL 32606-6669

EXAMINER

KUBELIK, ANNE R

ART UNIT

PAPER NUMBER

1638

DATE MAILED: 07/13/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
07/713,624	06/10/1991	MICHAEL J. ADANG	7285-012	9725

TITLE OF INVENTION: INSECT RESISTANT PLANTS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$0	\$1330	10/13/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

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If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
- B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
- B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

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III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**

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CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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07/713,624	06/10/1991	MICHAEL J. ADANG	7285-012	9725

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nonprovisional	NO	\$1330	\$0	\$1330	10/13/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
KUBELIK, ANNE R	1638	800-317400

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1	_____
2	_____
3	_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent); ☐ individual ☐ corporation or other private group entity ☐ government

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- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

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- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is not claiming SMALL ENTITY status. See, e.g., 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

(Authorized Signature)

(Date)

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Determination of Patent Term Extension or Adjustment under 35 U.S.C. 154 (b) (application filed prior to June 8, 1995)

This patent application was filed prior to June 8, 1995, thus no Patent Term Extension or Adjustment applies.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

#46 J

Notice of Allowability	Application No.	Applicant(s)	
	07/713,624	ADANG ET AL.	
	Examiner	Art Unit	
	Anne R. Kubelik	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Board of Appeals decision oof 3/26/03.
2. ☒ The allowed claim(s) is/are 15-17,22,24-27,29-32,34,40,42-44,46-50 and 57 renumbered 1-23, respectively.
3. ☒ The drawings filed on 20 October 1988 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

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Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jeff Lloyd on 7 July 2004.

Claims 18-21, 23, 28, 33, 35-39, 41, 51-56 and 58-67 are cancelled without prejudice.

In claim 15, in line 1, "controlling" was replaced with --providing insecticidal proteins to-- and in line 12, "controlled" was placed with -- provided insecticidal proteins--.

J1
Claim ~~16~~² (amended). A plant cell capable of regeneration, wherein the plant cell is transformed with a nucleic acid encoding [to comprise] a *Bacillus thuringiensis* crystal endotoxin [protein insecticidal gene] under control of a promoter such that said [gene] endotoxin is [expressible] expressed in insecticidal amounts in plant tissue regenerated from said cell [in insecticidal amounts].

J2
Claim ~~22~~⁴ (amended). [A] The plant cell of claim ~~16~~², wherein said [gene] endotoxin is a full-length *Bacillus thuringiensis* crystal endotoxin [protein insecticidal gene].

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33
Claim ~~24~~⁵ (amended). [A] The plant tissue regenerated from [a] the plant cell of claim ~~16~~²,

wherein the tissue expresses said protein [containing and expressing said gene] in insecticidal amounts.

34
Claim ~~25~~⁴ (amended). [A] The plant regenerated from [a] the plant cell of claim ~~16~~², or a

[and] progeny of [such] said plant, wherein the plant or progeny expresses said protein [containing and expressing said gene] in insecticidal amounts.

Claim ~~26~~⁷ (amended). A plant cell comprising a [gene] nucleic acid encoding a *Bacillus thuringiensis* endotoxin or endotoxin fragment, wherein said [gene being] nucleic acid is under the control of a promoter functional in [such] said plant cell, wherein said [gene] endotoxin or endotoxin fragment is expressed at a level rendering [such] said cell toxic to an insect.

Claim ~~27~~⁹ (amended). A dicotyledonous plant cell comprising a [gene] nucleic acid encoding a *Bacillus thuringiensis* endotoxin or endotoxin fragment, wherein said [gene being] nucleic acid is under the control of a promoter functional in [such] said plant cell, wherein said [gene] endotoxin or endotoxin fragment is expressed at a level rendering [such] said cell toxic to an insect.

35
Claim ~~29~~⁹ (amended). A plant cell comprising a [gene] nucleic acid encoding a *Bacillus thuringiensis* var. *kurstaki* endotoxin or endotoxin fragment, wherein said [gene being] nucleic acid is under the control of a promoter functional in [such] said plant cell, wherein said [gene]

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endotoxin or endotoxin fragment is expressed at a level rendering [such] said cell toxic to an insect.

10
J5
cancel
Claim ~~30~~ (amended). A dicotyledonous plant cell comprising a [gene] nucleic acid encoding a *Bacillus thuringiensis* var. *kurstaki* endotoxin or endotoxin fragment, wherein said [gene being] nucleic acid is under the control of a promoter functional in [such] said plant cell, wherein said [gene] endotoxin or endotoxin fragment is expressed at a level rendering [such] said cell toxic to an insect.

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Claim ~~31~~ (amended). A dicotyledonous plant cell comprising a [gene] nucleic acid encoding a *Bacillus thuringiensis* var. *kurstaki* HD-1 endotoxin or endotoxin fragment, wherein said [gene being] nucleic acid is under the control of a promoter functional in [such] said plant cell, wherein said [gene] endotoxin or endotoxin fragment is expressed at a level rendering [such] said cell toxic to an insect.

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Claim ~~32~~ (amended). A dicotyledonous plant cell comprising a [gene] nucleic acid encoding a *Bacillus thuringiensis* var. *kurstaki* HD-73 endotoxin or endotoxin fragment, wherein said [gene being] nucleic acid is under the control of a promoter functional in [such] said plant cell, wherein said [gene] endotoxin or endotoxin fragment is expressed at a level rendering [such] said cell toxic to an insect.

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¹⁴
Claim ~~40~~ (amended). The plant cell of claim [16,] ~~26~~, ~~27~~, [28,] ~~29~~, or ~~30~~ in which the
[gene] endotoxin is [a] full-length [*Bacillus thuringiensis* crystal protein gene].

[In claim 42, in line 2, "28," was deleted.

¹⁶
Claim ~~43~~ (amended). An insect resistant plant comprising the plant cell of claim ~~16~~, ~~26~~,
⁸ ⁹ ¹⁰
~~27~~, [28,] ~~29~~, or ~~30~~ and the insect-resistant progeny of [such] said plant, wherein the progeny
comprises the nucleic acid.

[In claim 44, line 1, "controlling" was replaced with -- providing insecticidal proteins to--.

¹⁹
Claim ~~47~~ (amended). A plant regenerated from a plant cell which is susceptible to
transformation by *Agrobacterium tumefaciens*, wherein the plant cell [and] is transformed with a
nucleic acid [to comprise a full length *Bacillus thuringiensis* crystal protein insecticidal gene
capable of] encoding a *Bacillus thuringiensis* crystal protein of approximately 130-135 kD, and
wherein the nucleic acid is under control of a promoter such that said [gene] protein is
[expressible] expressed in said plant in amounts insecticidal to Lepidopteran insects.

²⁰
Claim ~~48~~ (amended). A plant regenerated from a plant cell which is susceptible to
transformation by *Agrobacterium tumefaciens*, wherein the plant cell [and] is transformed with a
nucleic acid [to comprise a *Bacillus thuringiensis* gene capable of] encoding a *Bacillus*
thuringiensis endotoxin, wherein the nucleic acid is under control of a promoter, and wherein

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com.
said [gene] endotoxin is [expressible] expressed in said plant [to yield endotoxin] in amounts insecticidal to [lepidopteran] Lepidopteran insects.

In claim 49, in line 1, "gene" was replaced with --nucleic acid--, in line 2, "gene" was replaced with --endotoxin or endotoxin fragment--, and in line 4, the first "gene" was replaced with --nucleic acid-- and the second "gene" was replaced with --endotoxin or endotoxin fragment--

In claim 50, a comma was inserted after "49".

23
Claim ~~51~~ (amended). A tomato plant which has been regenerated from a tomato plant cell transformed to comprise a nucleic acid [full length *Bacillus thuringiensis* crystal protein gene capable of] encoding a *Bacillus thuringiensis* crystal protein of approximately 130 kD, wherein the nucleic acid is under control of a promoter such that said [gene] protein is [expressible] expressed in said plant in amounts insecticidal to Lepidopteran insects.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (571) 272-0801. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of

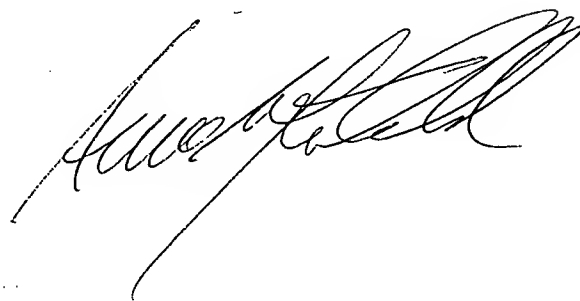
Art Unit: 1638

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For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Anne R. Kubelik, Ph.D.

July 7, 2004



**ANNE KUBELIK
PATENT EXAMINER**

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